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MEMORANDUM FOR: Chief, Technical Services Group, NPIC  
ATTENTION : Chief, Technical Operations Staff, TSG/NPIC  
SUBJECT : Monthly Report for September 1972

A. SIGNIFICANT ITEMS OF INTEREST FOR SEPTEMBER 1972:

1. Scan & Search PI Station - SSPIS [ ] The SSPIS was installed in the IEG area. ESD performed tests to insure that the instrument was operating properly and IEG started the operational suitability tests on 27 September 1972.

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2. Automatic Focus Breadboard, Phase II [ ] The fabrication and assembly of the basic breadboard (with film and carriage drives, microscope bridge, and airgate) is nearing completion. In October, the final [ ] will be added and each subsystem tested for operation. Data collection is scheduled through November and the project will be completed in January 1973.

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3. Binocular Magnifier [ ] Following approval of the final optical design on 31 August 1972, all the glass for this instrument was ordered. All mechanical design work was completed in September. Computer analysis indicates optical resolutions well in excess of the original development objectives. The predicted delivery of this instrument is December 1972.

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NRO review(s) completed.  
Declass Review by NIMA/DOD

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25X1 4. Dry Silver Negative Acting Film [ ] Verbal reports, on  
25X1 tests performed [ ] on negative acting material Lot 62,  
25X1 indicate that the resolution and reproduction qualities compared  
favorably [ ] A formal report on the tests will be avail-  
able early in October. Lot 64 is presently undergoing tests at  
Westover. Preliminary tests indicate that this lot is considerably  
better than Lot 62.

25X1 5. Enlarger-Viewer-Printer [ ] ESD resumed the acceptance  
tests on this device last week of September. Work has been held  
up since the end of June while the ESD test engineer completed tests  
on the SSPIS.

25X1 6. Mapholder [ ] The production prototype mapholder  
was delivered. Several possible improvements were noted and they  
will be reviewed by the contractor prior to the production run.

25X1 7. DIA [ ] Light Table [ ] DI-8 has completed the opera-  
25X1 tional evaluation of the DIA version of the [ ] light table  
and found the table acceptable. The table has been transferred  
to ESD for tests relating to technical specifications.

25X1 8. Mensuration Parameters File Storage Study [ ] An  
25X1 interim briefing was presented to NPIC [ ] on the alter-  
native of printing MPF data as a data block on each piece of film.

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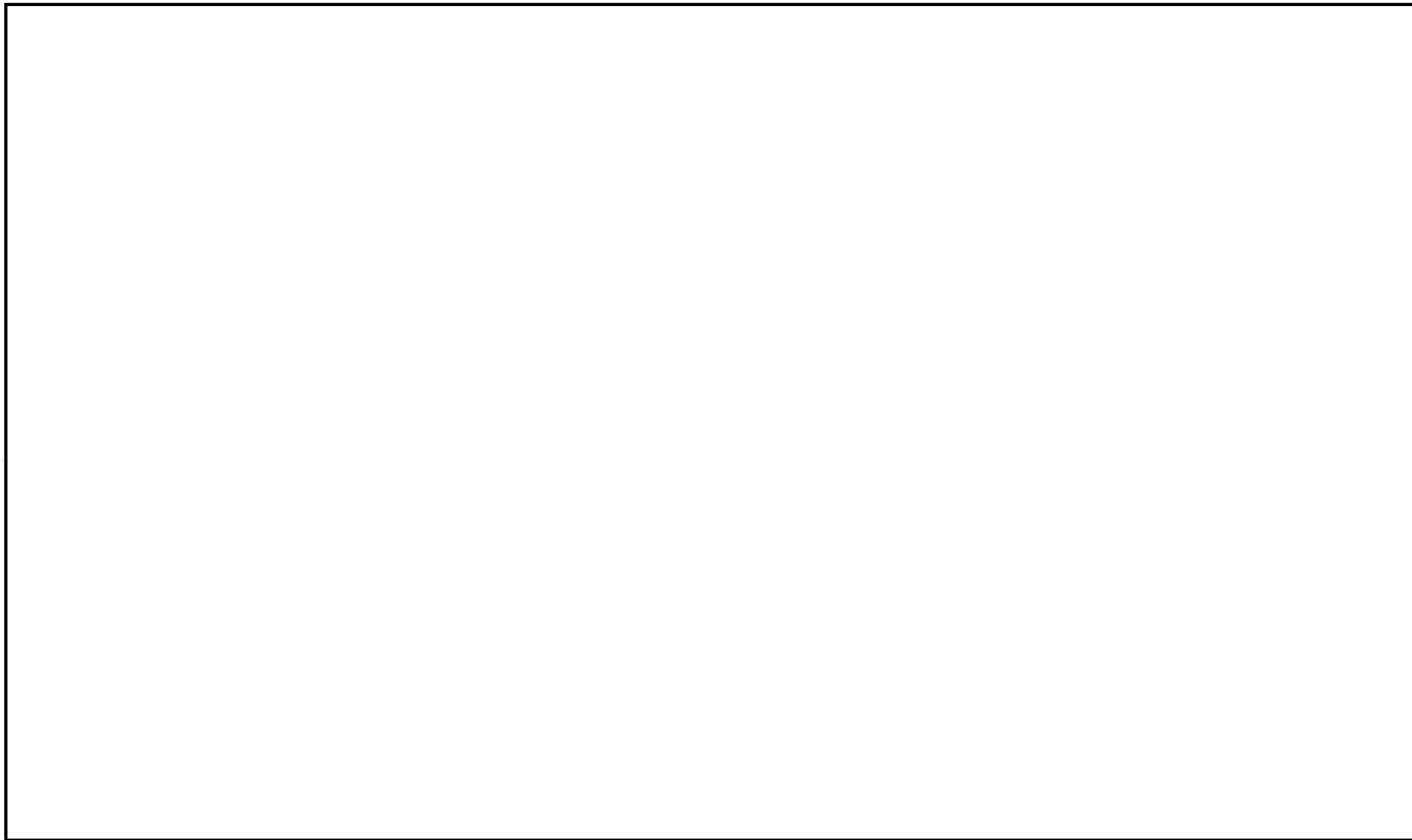
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The conclusion about this alternative is that data block is feasible but not cost effective for the anticipated usage. High density discs appear (at this stage of study) to be the most cost effective storage media.

9. Ground Coverage Display  Phase II of this study has been delayed by an in-house analysis of the Phase I results. It is expected that work will be initiated on the Phase II analysis during October.

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In order to resolve this uncertainty, attempts are being made to obtain some sample imagery from the prototype [ ] for comparison with our simulations.

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13. [ ] CRT Study [ ] This project, although approved by NPIC management, was not accepted at higher levels. An overture was made to ORD to consider this area of investigation.

14. Color Simulation Photography [ ] The production work on the final set of photography has begun--immediate project applications for this imagery will be in the Color Difference Program and the Colorimetric Image Correction Program. The photography will simulate [ ] color balances under 3 different haze conditions. A set of comparison black and white photos will also be taken.

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15. Color Equipment Investigation Program [ ] Delivery of the automatic color densitometer will be delayed due to a randomly occurring malfunction. Delivery is now expected by late October.

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16. Diagnostic Computer Program [ ] Efforts to obtain special grids on standard 4 mil base [ ] for [ ]

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use on the calibration program [ ] were unsuccessful. It will be another month before they are available. Unfogged, processed 4 mil base [ ] was used instead, with imperfections in the film being used for measurement points. The result was a reduction in the variation of 10-20 micrometers seen previously with a 7 mil base graphic arts film to a variation on the new film of 2-3 micrometers. It is interesting to note [ ] used a 5 mil base film in determining the air flow for film cooling. The difference may be a result of, unequal cooling of the thicker base film.

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17. TID Engineering Support [ ] Work was stopped on processing film for image quality because of a broken gear in the TID's film transport. The gear was replaced as were cooling fan and power connectors. The equipment was out of commission for five days during repair, was placed back on line on 18 September and on 21 September it was moved to its new location in 2N-147.

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18. Imagery Interpretation Research Program [ ]

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a. The contractor has provided RED a new set of Color Stereo Acuity Test materials which will be used in a series of planned in-house vision research projects. The stimuli are suitable for use on microstereoscopes.

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b. The FY-73 IIRP proposal was evaluated during the reporting period; the Project Approval Request is scheduled to move forward during the first week in October.

c. A no-cost, time-only extension has been approved for the FY-72 IIRP in order to complete work on the Search Improvement Program and the evaluation of the Scan and Search PI Station. The PI's who will participate in the operational evaluation of the Scan and Search PI Station received training in the proper use of this new instrument.

d. The final report on the evaluation of an IEG SALT Rating Scale is nearing completion, with delivery to RED planned for early October.

e. Computer statistical analysis on the preliminary PI Search Test was completed and the actual search test was constructed. The finished test is now awaiting use in evaluating the PI Search Course which is scheduled to be given in October.

f. [ ] RED/SIS and OMS/PSS personnel held several meetings with representatives from the Color Evaluation Working Group to design a research effort to compare B/W and color photography as related to search. This program, scheduled to

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begin early next year, is a follow-on to a current study comparing B/W and color photography for specific target readout applications.

g. Testing and search training was conducted for 20 PI's during the week of 21 thru 25 September. Results of Test/Training were packaged and air shipped [ ] for evaluation on Monday, 28 September.

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19. Narrowband Color Viewer. A proposed follow-on evaluation of the Narrowband Color Viewer was approved by Chief, TSG. The program will run several months commencing in early October. It is specifically designed to assist TSG management in structuring the future course of R&D in the narrowband illumination concept.

20. NPIC Equipment Summary. RED's assistance in the compiling of the 1973 edition of the Equipment Summary has been completed. Proofing of the typeset copy still remains to be done.

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21. [ ] Film Measurement. A film thickness measurement project was carried out by RB personnel. Over 500 measurements were made on 1200 feet of original negative ultra-thin-base film to an accuracy of 10 millionths of an inch. Results were provided to APSD.

B. MEETINGS, BRIEFINGS, ETC.

1. R&D and Center Problems. An RED planning meeting convened

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during the period 11-15 September to address R&D and NPIC problems. Meeting was chaired by SIS and attended by selected RED personnel.

2. Holography Research. [ ] presented a 20-minute movie on Holography Applications in the Blue Room on 27 September. Thirty interested personnel attended.

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3. EXRAND Briefings. Briefings were presented to EXRAND on the following projects:

a. Autocord [ ]

b. CRT Evaluation [ ]

4. Silver Recovery. [ ] attended a meeting at DIA on silver recovery methods. The assistant to the DOD Silver Officer outlined a number of problems in recovery of silver from waste film. The companies with film base recovery methods do not now have the necessary capacity to handle large volumes of film so contracts have been let to incinerate film for recovery of silver in the ash.

5. [ ] Color Scanner. [ ] visited SPPF for the initial design review of the [ ] Color Scanner which [ ] is procuring for color quality control. This device appears to have limited direct application at NPIC.

6. Image Processing Seminar. [ ] attended an image processing tutorial by [ ]

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[redacted] on 14 September. A tour through the Naval Intelligence Support Center's (NISC's) new image processing facility followed.

C. D.O.'s, PROPOSALS, AND PARS

1. Image Translator System. Development objectives for operation and maintenance manuals for the Image Translator System and the Target Indexing Device were completed and routed [redacted] for comments.

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2. Technical Parameters for a Closed Circuit TV System. Development objectives were prepared, approved, and are soon to be released.

3. Feasibility Study for VHR Stereoscope. Development objectives are being compiled.

4. Optical Equipment Test Kit Model II. A proposal has been received [redacted] and is under consideration.

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5. TID Frame Reader Improvement. A proposal has been received

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6. Approved Projects.

a. Air Bearing Objective [redacted]

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b. Dry Silver Enlarging Paper [redacted]

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c. Interactive Viewer Change-in-Scope [redacted]

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d. Relocation of SSPIS [redacted]

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D. PERSONNEL

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E. SIGNIFICANT ITEMS FOR OCTOBER:

The high speed microdensitometer and digital image console are scheduled to undergo initial debugging and testing next month.

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Deputy Chief  
Research & Engineering Division, TSG/NPIC

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